CHAPTER 2:

CURRENT AND FUTURE STATE OF THE REGION

The AMPA is the location of State of New Mexico's highest concentration of population and jobs. As of 2016, there were approximately 890,600 people and 403,100 jobs[1], which represents 43 percent of the state's population and about 45 percent of its jobs. It also contains New Mexico's largest city, the City of Albuquerque, and it's fastest growing, the City of Rio Rancho. Rio Communities is the newest incorporated place, incorporated in 2013.

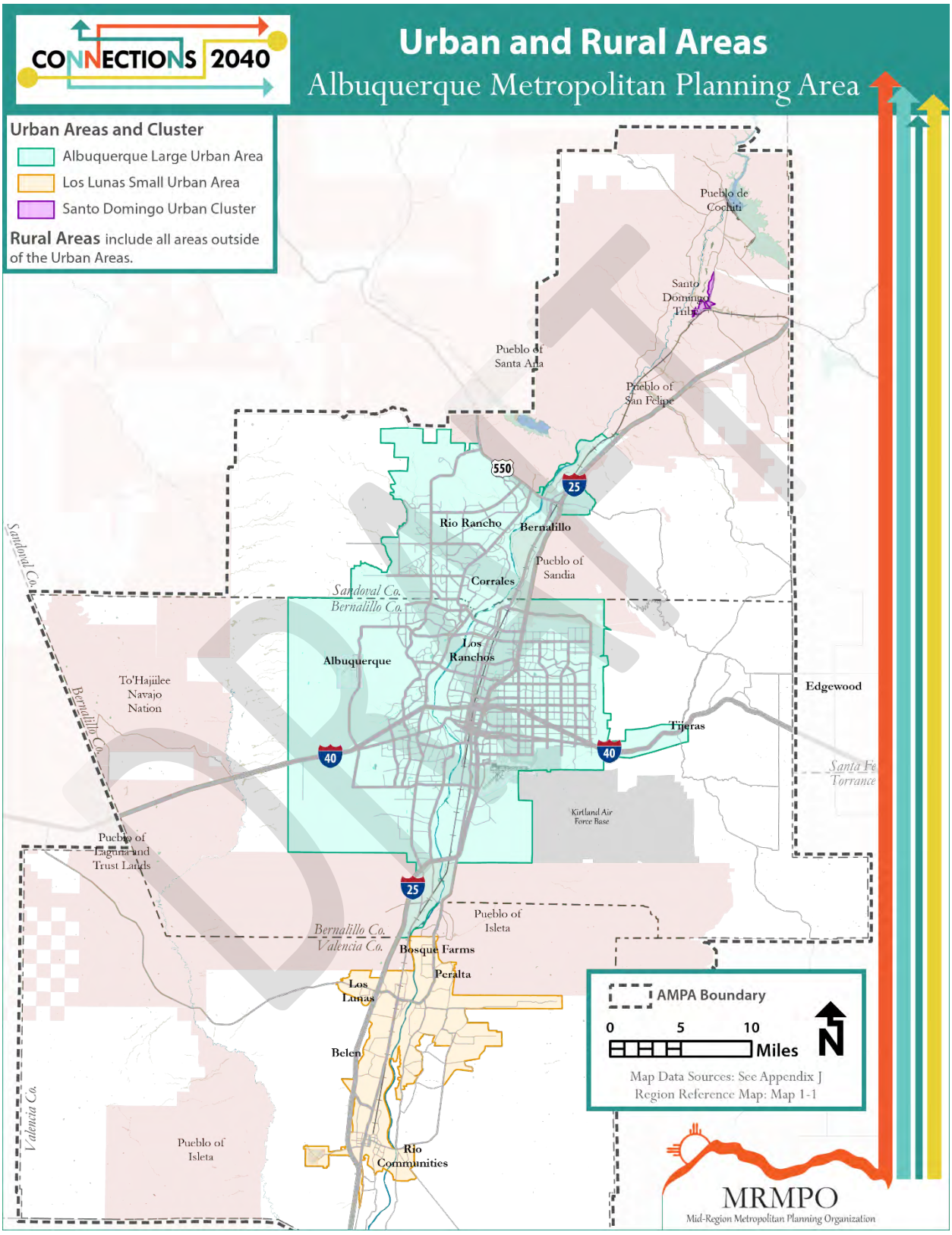
The AMPA is home to several major educational institutions including the University of New Mexico (UNM) and Central Community College of New Mexico (CNM), numerous major hospitals including University of New Mexico Hospital and Presbyterian Hospitals, and other large employers such as Sandia National Laboratories, Intel Corp., and Kirtland Air Force Base. With a unique mix of urban and natural amenities and vast agricultural and rangelands, the AMPA offers a range of settings and lifestyle opportunities for its diverse population.

This chapter provides the regional backdrop for this plan in terms of the population characteristics and the current economic situation. It also highlights some key challenges and opportunities facing the region today. Note that much of the data presented herein pertains to the Albuquerque Metropolitan Statistical Area (MSA), which represents the four counties of Bernalillo, Sandoval, Torrance, and Valencia.

The MSA is a reliable proxy for the AMPA given that 98 percent of its population and jobs are within the AMPA boundary.

[1] MRMPO's definition of employment includes all jobs covered by unemployment insurance as well as an estimate of agricultural workers, military, and self-employment.

Map 2-1: AMPA with Urbanized Areas



2.1 Socioeconomic Trends

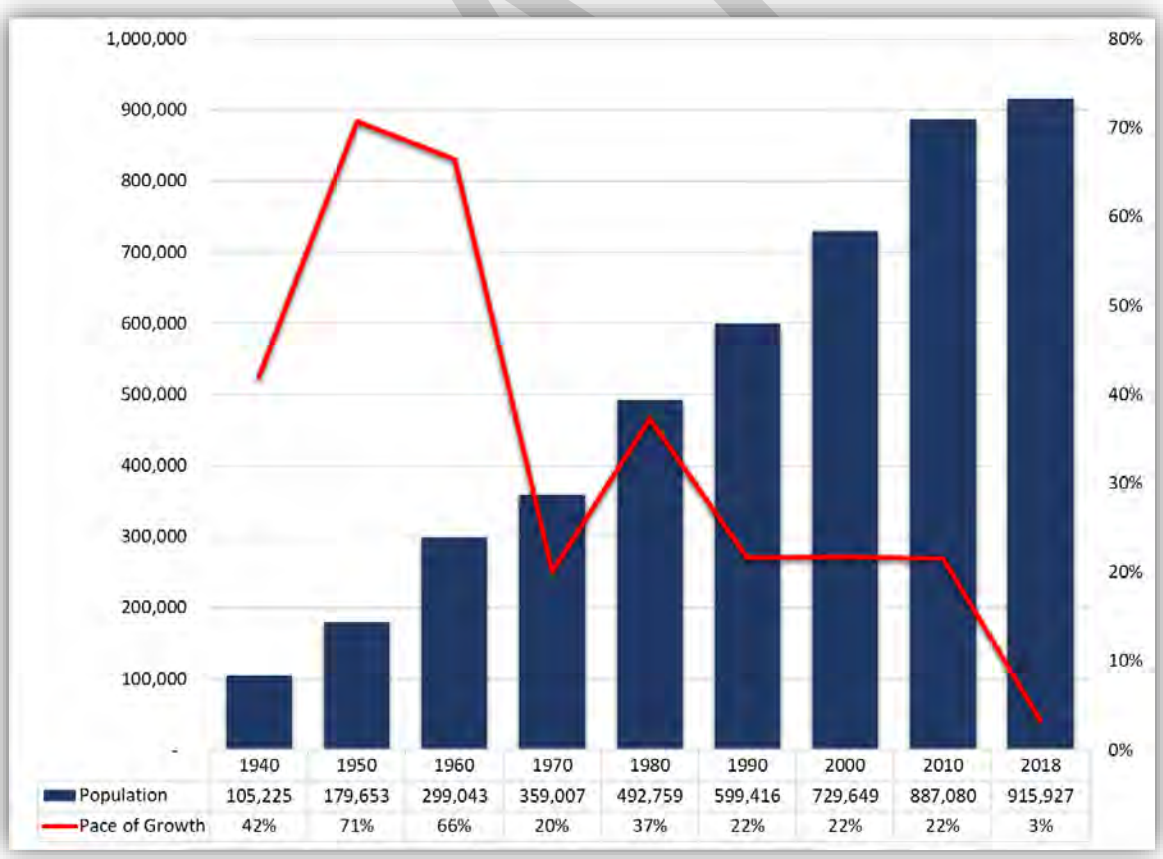
a. Regional Shifts

The Great Recession had a deep and long-lasting impact on this region. While the Albuquerque MSA was a bit of a latecomer to the recession, the recovery has lagged behind the rest of the country. The MSA began to shed jobs in 2008, and by the end of 2012 the region had lost almost 30,000 jobs, or seven percent of its total employment. While the number of jobs in the MSA has *almost* completely rebounded to pre-recessionary levels, there have been some key shifts that have changed the structure of our economy in some fundamental ways.

Slow Population Growth

Population growth in the United States is at an all-time low due to declines in the number of births, gains in the number of deaths, and reduced mobility between states. In fact, a fifth of all states experienced population loss between 2016 and 2018. New Mexico is not an exception to these trends and after three decades of over 20 percent increases in population, the Albuquerque MSA has experienced a dramatic slowdown with the average annual growth rate hovering just above zero since 2010. While stagnant growth is not unique compared with much of the nation, New Mexico continues to be the slowest growing state in the Southwestern United States.

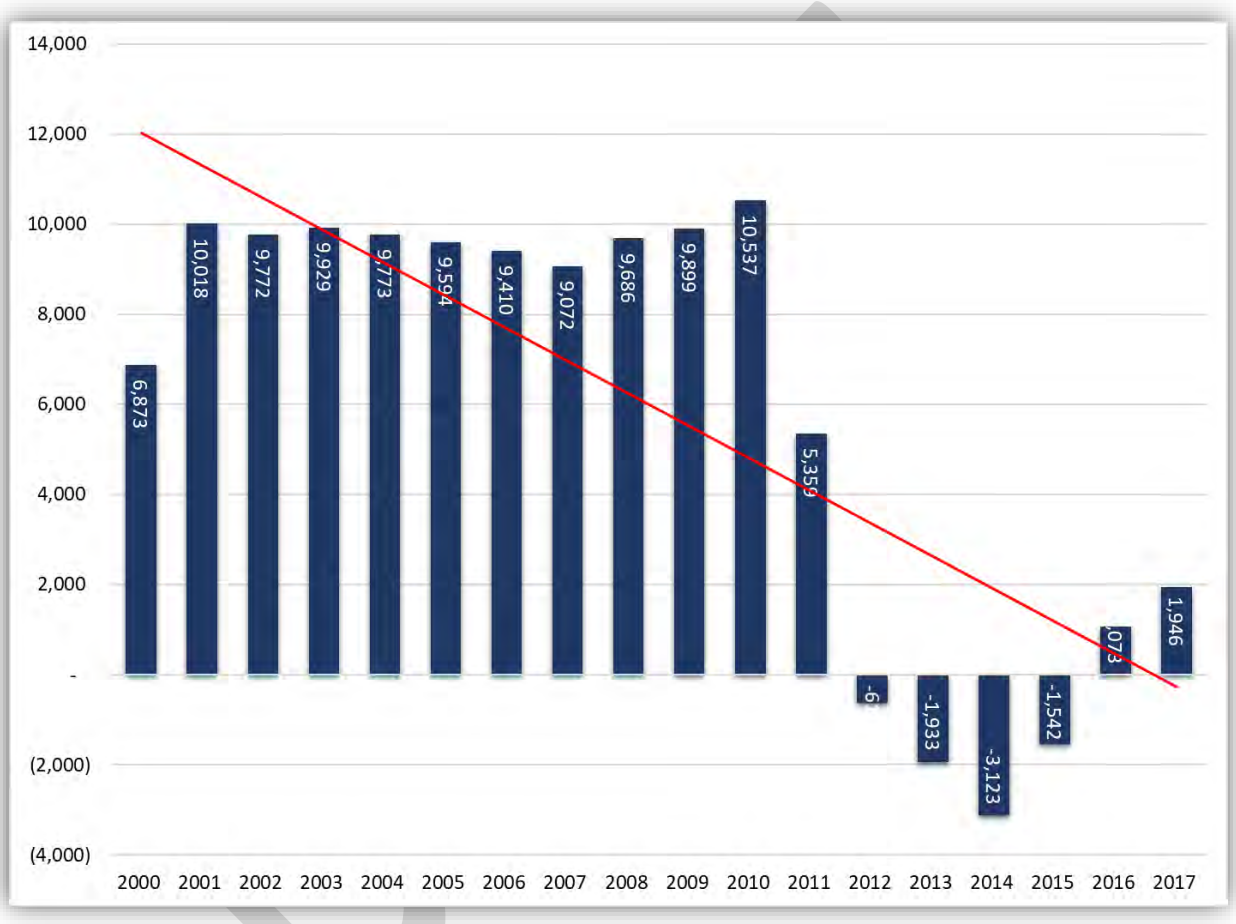
Figure 2-1: AMPA Population and Pace of Growth over Time, 1940 – 2018



Negative Net Migration

A large reason behind population stagnation in the Albuquerque MSA has been increased out-migration and a decreased in-migration on the heels of the recession. Once an attraction to people from neighboring states and other parts of New Mexico, this region has typically relied on migration for a large share of its growth for decades. However, beginning in 2012 more people left the area than moved in, many to bordering states such as Colorado, Arizona, and Texas.

Figure 2-2: Net Migration in the Region: 2000 – 2018



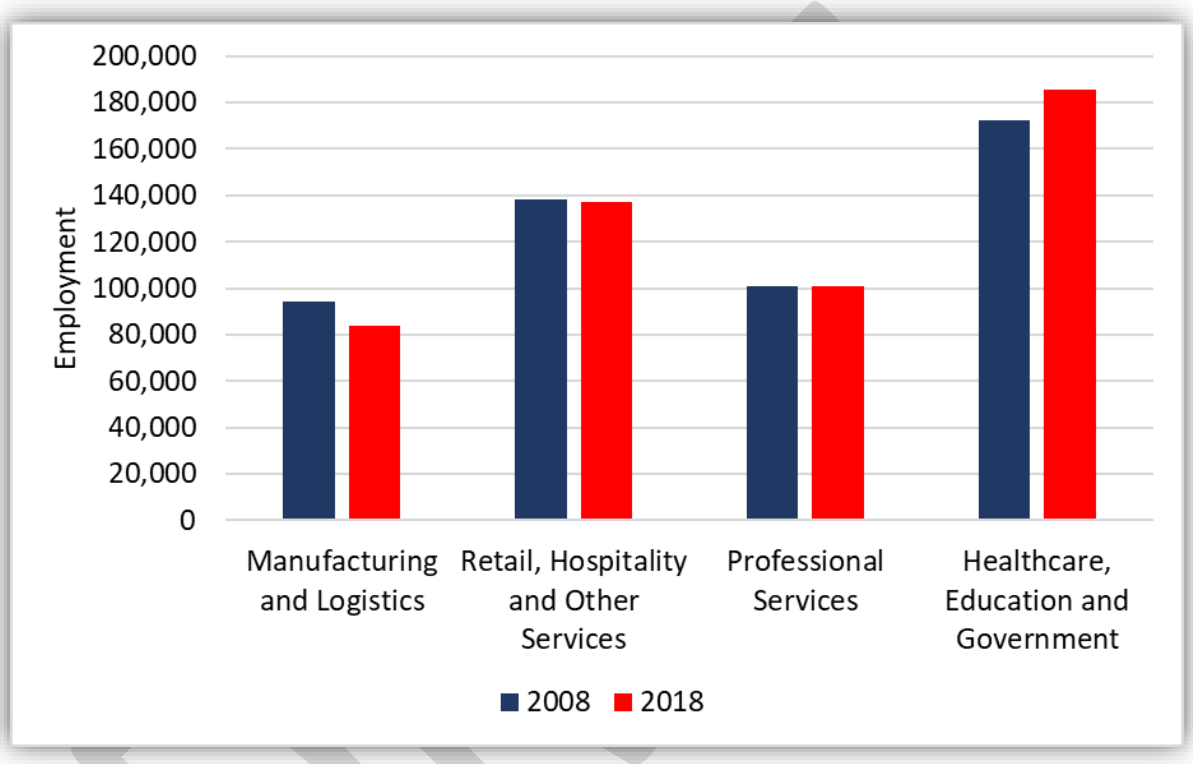
Leakage of Human Capital

The most recent data show that the region is back in positive territory in terms of net migration. While this is a good sign, an analysis of state migration data shows that the majority of people who left New Mexico were educated adults and their families. The data show 40 percent of the net population lost to migration held Bachelor's degrees. This represents a leakage of human capital that is likely to have a fundamental impact on our workforce going forward.

a. Employment Sectors Performance

The vast majority of the region's jobs are in service industries such as healthcare, education, and government. The largest single sector is healthcare and social assistance (68,000 jobs), followed by retail trade (41,700 jobs), and accommodation and food services (41,600 jobs). Manufacturing and logistics industries, which includes construction, utilities, transportation, and warehousing and wholesale trade represents 16 percent of the region's jobs.

Figure 2-3: Employment Growth by Industry in the Albuquerque MSA, 2008-2018



Led by growth in the Healthcare industry, service jobs are growing as a share of overall employment. Conversely, there has been a decline in manufacturing and logistics jobs over the past ten years. Because these industries tend to generate wealth and increase regional competitiveness, this is a concern. As we have rebounded from job losses due to the recession, jobs losses in many subsectors of the manufacturing industry have not recovered.

Economic Diversity

The reduction in manufacturing-related employment has spurred action by policy leaders and the private sector alike. Many opportunities have been identified in niche industries. For example, food manufacturing has flourished in the MSA and serves as an example of how we might build upon specialized areas in the future. **Another challenge is a historical reliance on a dominant government sector.** Due in part to major regional employers such as Kirtland Air Force Base, Sandia National Laboratories, and the University of New Mexico; government jobs currently represent one in every five jobs. Once seen as a source of stability for the region, systematic reductions in government programs and spending at the federal level over the past several years has rippled throughout the economy.

Once again, regional leaders have come together to work towards a solution. The devastating impact of federal cutbacks spurred broad recognition of the need to diversify our economy and build on the private sector. Positive momentum and a growing list of success stories has mounted behind entrepreneurship, high-technology clusters, film and media, and tourism, to name a few.

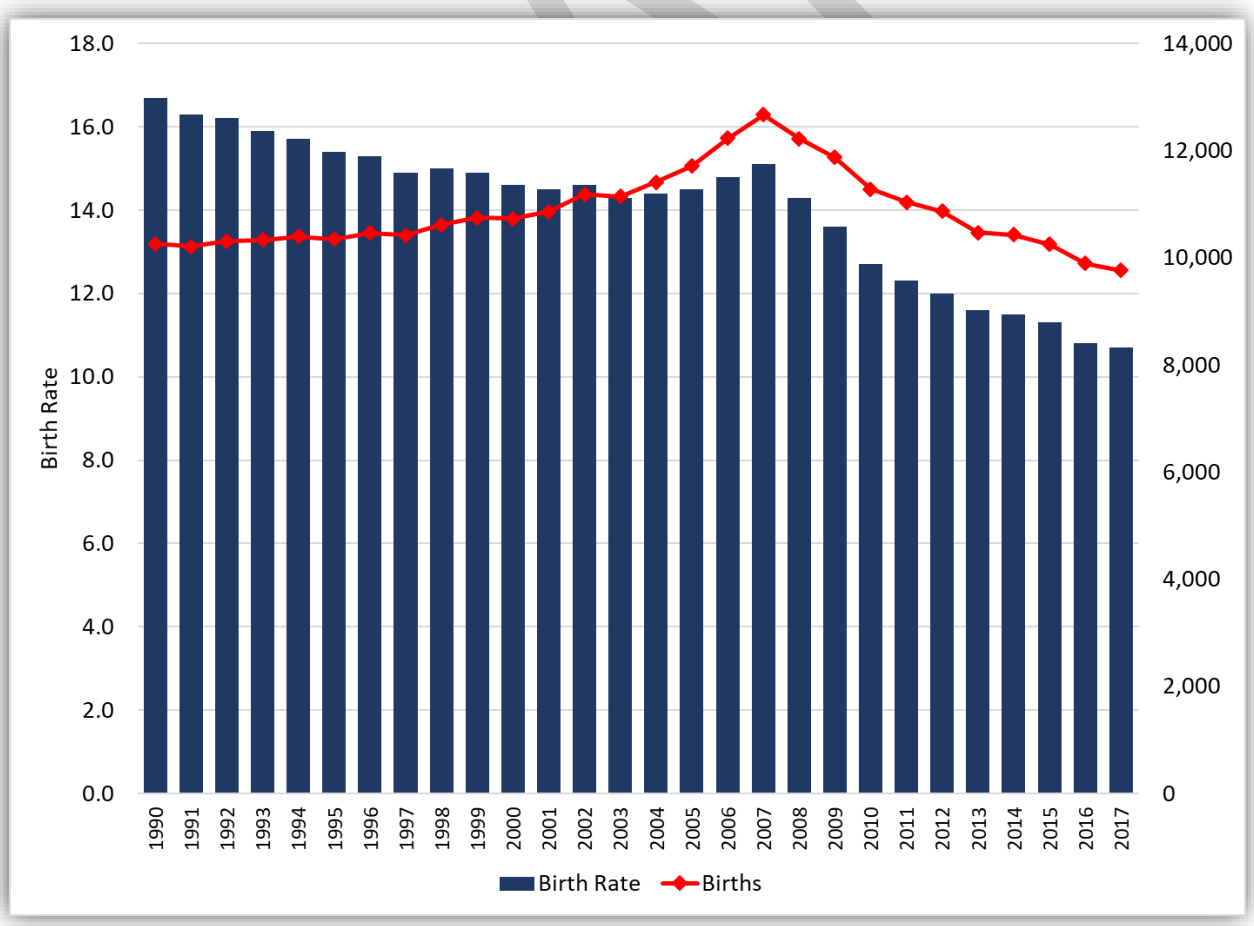
b. Changing Demographics and Lifestyles

Other key structural shifts are attributable to changes in demographics and consumer preferences: evolving household composition, shifting age dynamics, and changing housing and transportation demands are all important to understanding travel behavior and anticipating what may lie ahead in the future.

Declining Household Size

Households have been declining in size for decades. While the average household consisted of approximately 3.64 people in 1960, this has dramatically fallen over time, and today the average household size is 2.58. A large contributing factor is an overall reduction in number of children per family, which has decreased as women have taken a prominent place in the workforce and young adults have chosen to pursue higher education prior to starting families. The data confirm recent behavioral shifts towards marrying later in life and having children later in life than previous generations. And while birth rates have fallen steadily for decades, there was a precipitous drop after 2008, indicating that the struggling economy has further fueled the decision to delay starting a family.

Figure 2-4: Birth Count and Birth Rate in the Albuquerque, MSA: 1990 - 2017



Another key contributor to declining household sizes is that people are living longer, particularly women, thereby increasing the number of individuals who are living alone. In fact, in 2017, nearly a third of all households (107,000) in the MSA were one-person households. As we continue to age as a society, this number is expected to grow considerably.

Aging Population

Following World War II, the nation experienced a baby boom which lasted approximately 18 years between 1946 and 1964. Today, the children of that generation, appropriately referred to as the Baby Boomers, are between the ages of 54 and 72 and are crossing over between being active members of the workforce to retirement. Due to that surge in population growth so many years ago, we are now seeing the share of seniors dramatically rising and rivaling the share of youth, and by 2040 the percentage of the population over 65 is expected to be the same as the percentage under 18 (approximately 21 percent).

Table 2-1: Age Distribution in the Albuquerque MSA, 1990-2040

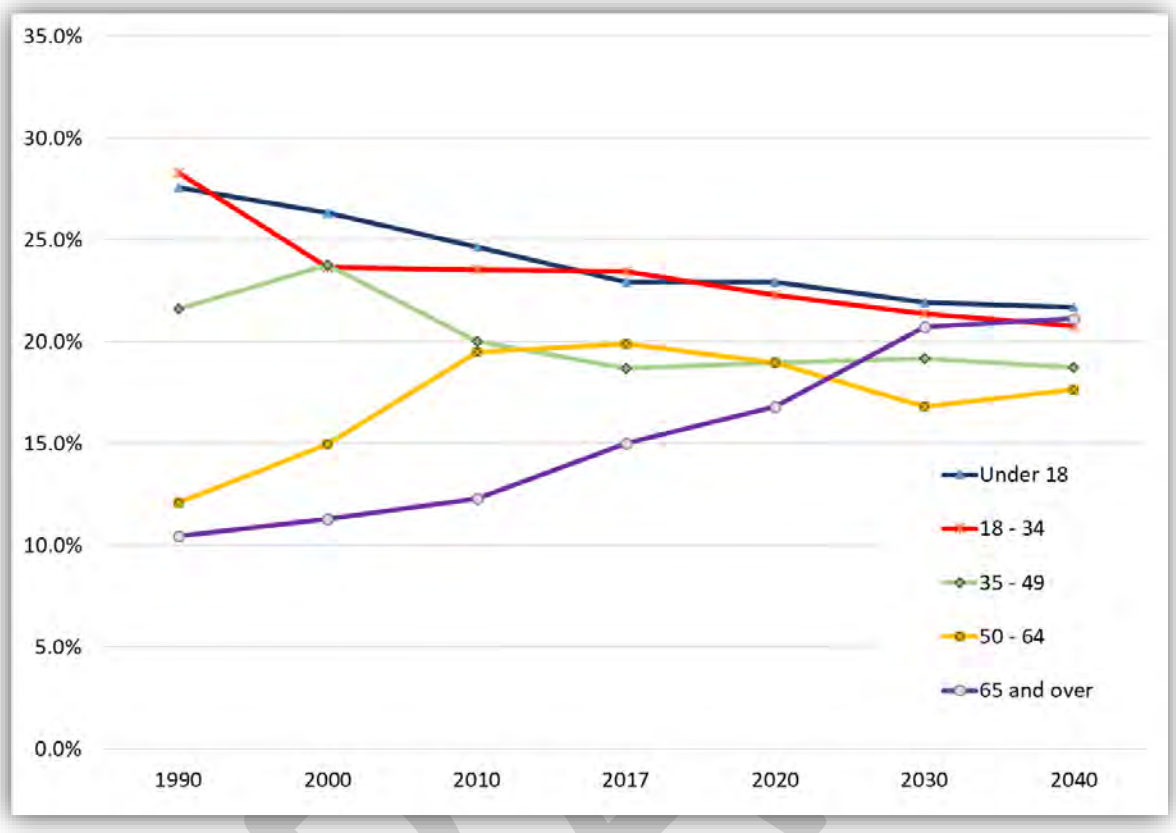
Source: US Decennial Census, ACS, UNM-GPS

Age Group	1990		2017		2040	
	Number	***Percent***	***Number***	***Percent***	***Number***	***Percent***
Youth (<18)	166,020	27.6%	207,605	22.9%	240,694	21.7%
Working Age (18-64)	373,548	62.0%	561,437	62.0%	633,887	57.2%
Seniors (65+)	63,020	10.5%	136,007	15.0%	234,151	21.1%
Total Population	602,588	100.0%	905,049	100.0%	1,108,733	100.0%

This not only has implications for senior services such as healthcare, as already evidenced by our growing healthcare industry, but also for our labor force. That is, a strong workforce will be required to support the needs of a growing number of retirees, but projections show that as the senior population rises in share, the working aged population will decline, potentially resulting in a labor shortage in the region.

An aging population will also have an impact on travel patterns and transportation needs. In particular, commuting trips in the peak period will form a smaller percentage of daily trips compared to today. There will also likely be changes in traffic patterns as trips are dispersed across the day. Similarly, an aging population may result in a greater reliance on some form of public transit as some aging residents may no longer be able to drive themselves.

Figure 2-5: Age Distribution in the Albuquerque MSA, 1990-2040



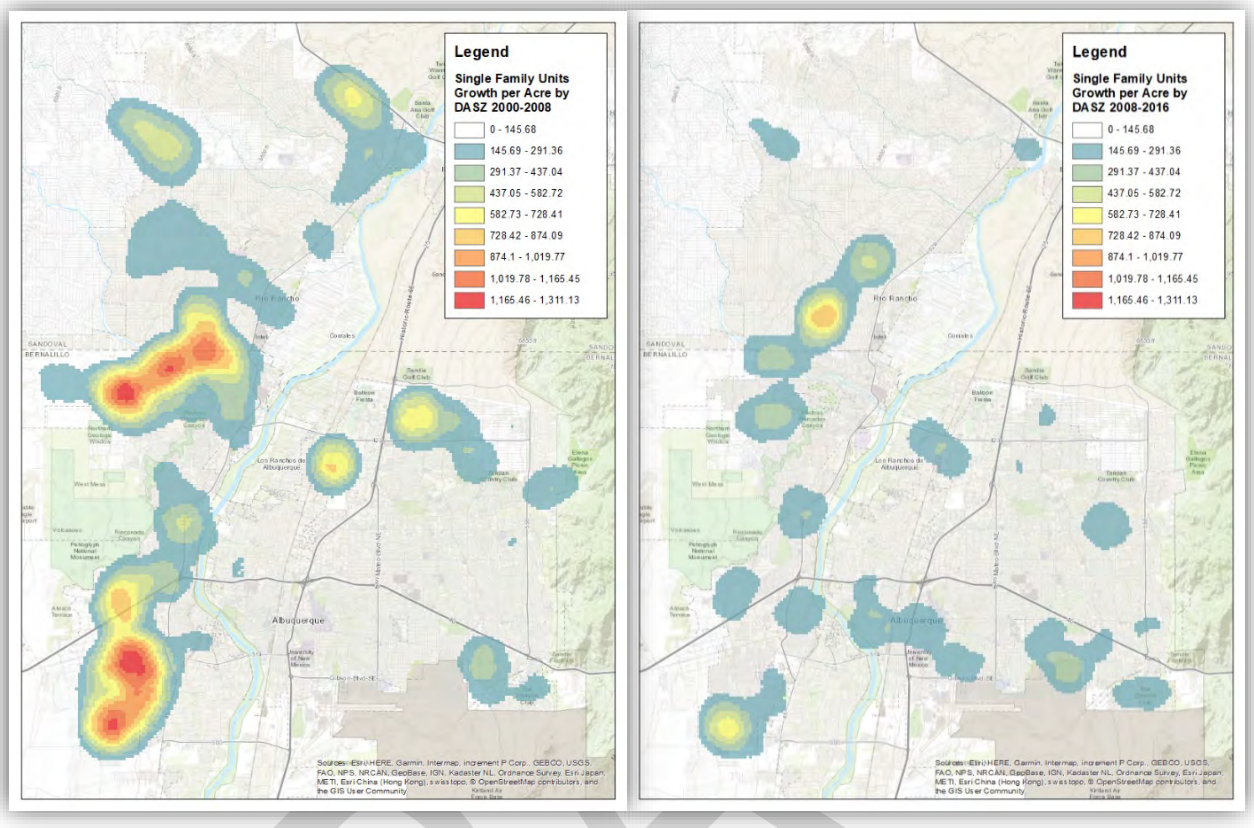
Key Housing Shifts

Recent housing data shows that amid a backdrop of declining household sizes and a growing senior population, there are some key shifts occurring in the housing market. One notable change is where we are choosing to develop. When we look at the location of new housing units over time it is clear that new homes are mostly locating closer to existing development. The following two maps compare new residential construction between 2000-2008 and 2008-2016. While a considerably fewer units were permitted following 2008 (20,000 compared to 59,000 between 2000 and 2008) those that were issued occurred closer to existing development, and in particular surrounding the Central Avenue corridor in Albuquerque. In addition, there was a contraction of growth west of the Rio Grande; between 2000 and 2008 72 percent of units permitted were west of the Rio Grande, from 2008 – 2016 that share dropped to 65 percent.

Multi-Family Development

One of the key drivers for this shift towards core development was an increase in the share of multi-family development. While between 2000 and 2008 approximately 11 percent of units permitted with multi-family, that share rose to 32 percent over the next eight years. This rise in multi-family construction as a share of overall new housing has been sustained over several years.

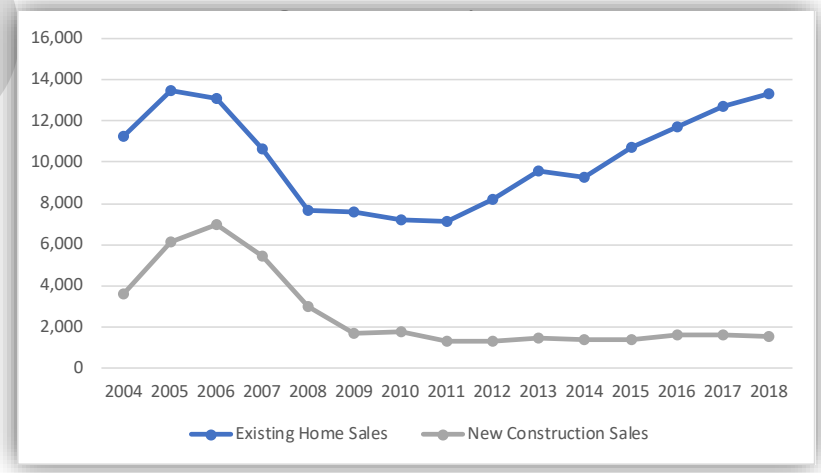
Map 2-2 and 2-3: Housing Unit Construction between 2000-2008 and 2008-2016



Single-Family Development

While single-family construction has essentially plateaued since its precipitous drop following the housing boom in the mid-2000s, existing home sales have rebounded to pre-recessionary levels. While these two components of the housing industry generally track closely, this represents a departure in favor of existing home sales. Some housing experts assert that low lot supply, access to labor and capital, and rising construction costs, are suppressing new homebuilding in the region.

Figure 2-6: Housing Market Activity, 2004 - 2018

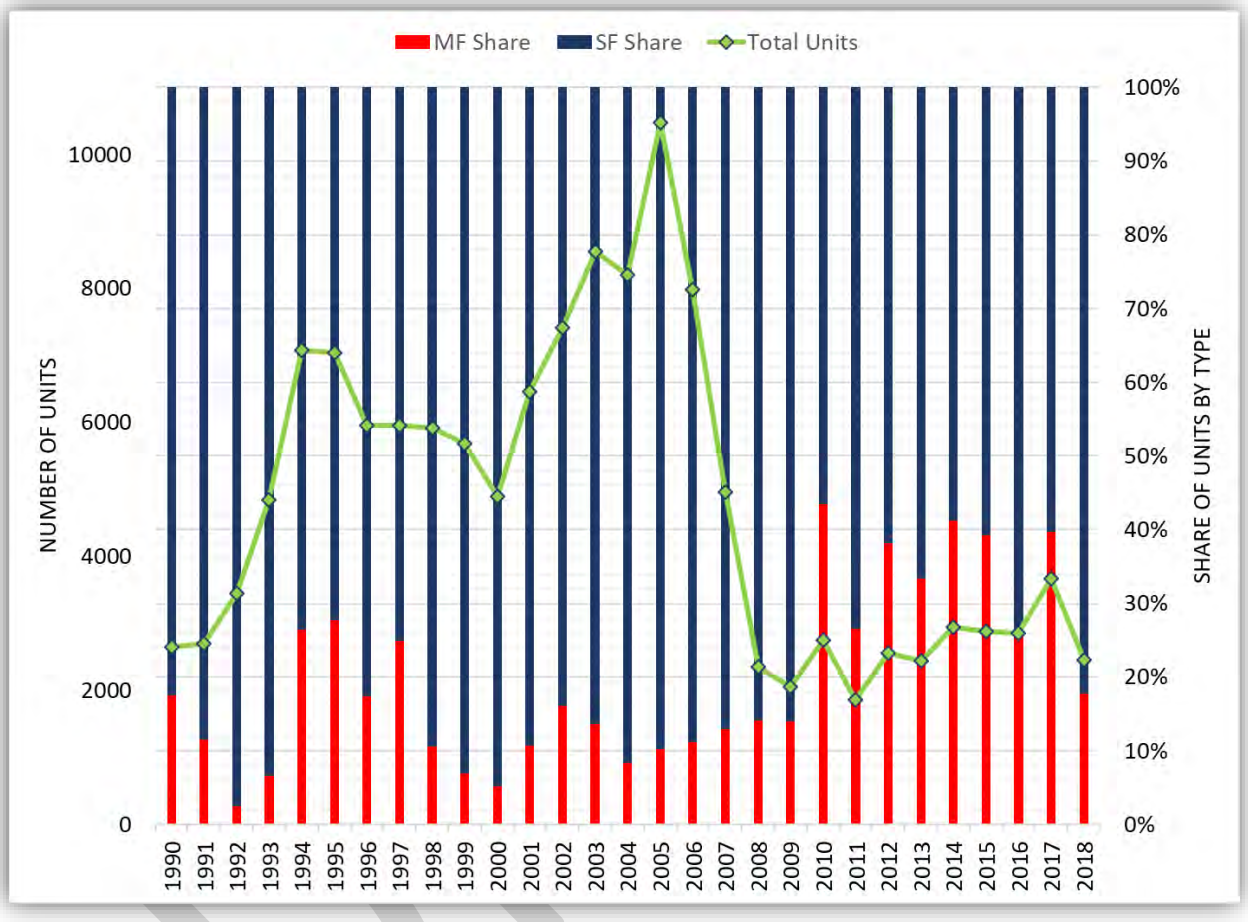


Changing Consumer Preferences

Changing consumer preferences may also be a factor in

determining where people choose to live. The costs associated with long work commutes, both in vehicle costs and in travel time, can be substantial particularly for the most vulnerable in our workforce. The growing distance between where people live and where they buy goods or seek medical care is particularly challenging on seniors and the youth. It is possible that this visible contraction in the residential development reflects a growing desire of consumers to be more accessible to their destinations.

Figure 2-7: Housing Construction by Housing Type, 1990-2018

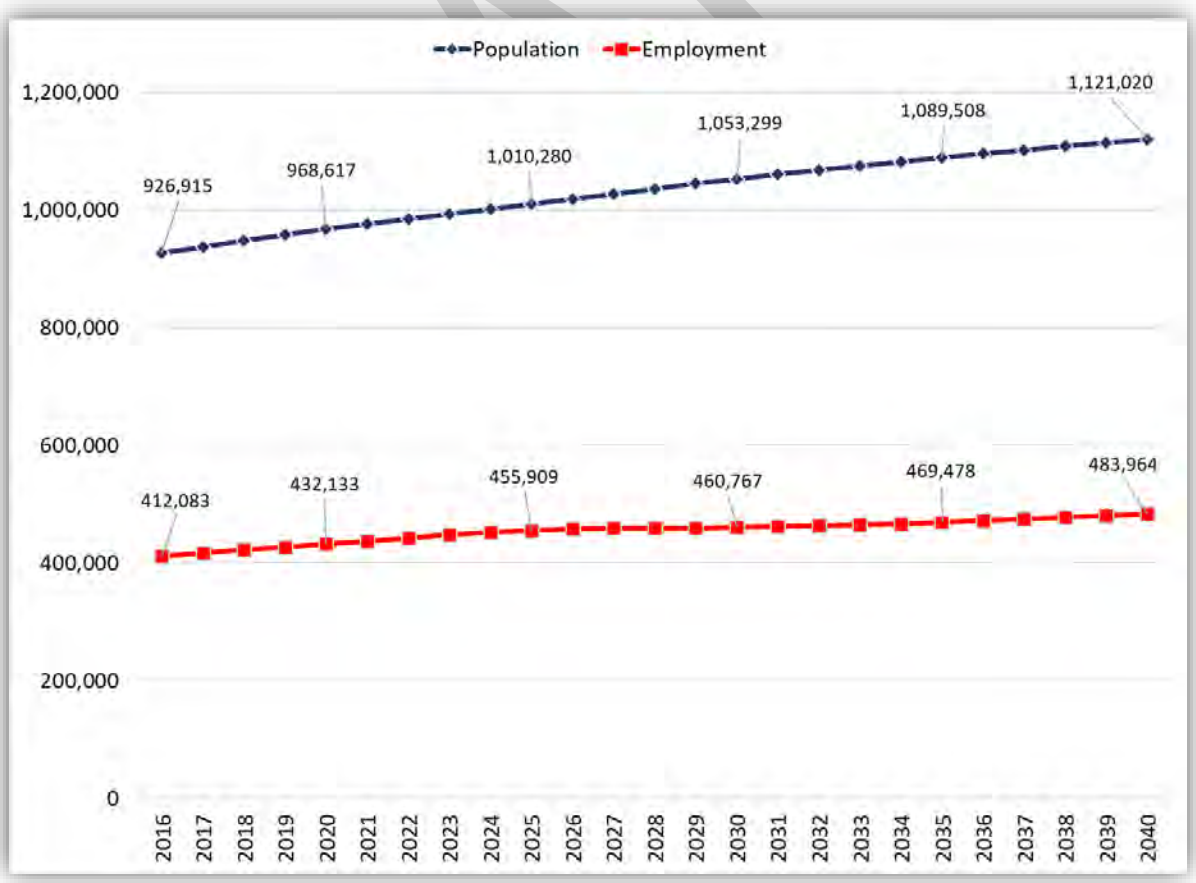


c. Socioeconomic Forecast

Socioeconomic forecasts are developed for 2040 Connections in order to inform decision-makers about the likely amount and location of future households and job growth given current development trends and existing growth plans and policies. These forecasts lay the foundation for anticipating future traffic volume and patterns. **With this information, regional leaders can best prepare for future travel demand and prioritize transportation infrastructure needs accordingly.**

Federal guidelines require that forecasts which inform long-range metropolitan transportation plans be built upon the most current information available regarding both demographic and economic trends. Because the forecasting process is a time-consuming part of MTP development it begins very early in the process of putting together an MTP. Early data collection for this MTP began in 2017 when the most complete data year was 2016, and as such, 2016 serves as the "base year" for the 2040 Connections. As the forecast is refined over time it is brought up to date by inserting more recent development activity that has occurred since the base year, in this case between 2016 and 2019. This is achieved by tracking local development review cases and building permits and entering them into the early years of the forecast. This important step ensures that the forecast truly begins with the most current information available and reflects reality when it comes to existing land use and growth patterns.

Figure 2-8: Population and Employment Forecast, 2016-2040



The MRCOG region is projected to grow by 194,105 people over the next 24 years resulting in a 2040 population of 1.1 million. **This represents an average annual growth rate of 0.8 percent. By contrast, the average annual historical growth rate in the 1990's was approximately 1.6 percent. The reduction in the pace of growth is fueled by slowed migration and a declining birth rate.** In addition, the region is projected to gain 71,553 jobs for a total of 484,000 jobs by 2040.

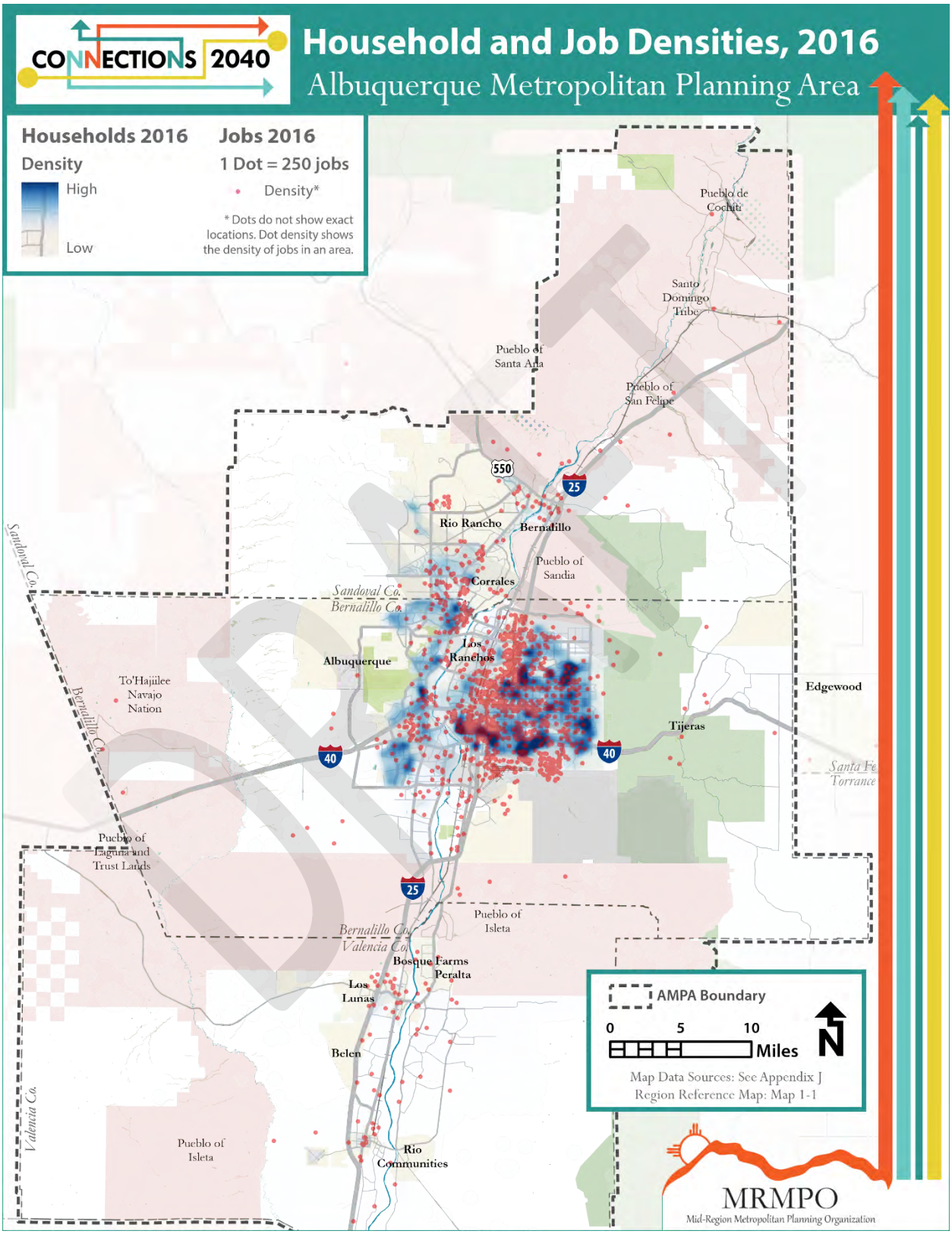
The following table and maps depict the expected distribution of future growth by county and by small areas of geography called Data Analysis Subzones (DASZs). [2]They illustrate a most likely growth scenario based on current plans and policies and historical growth trends.

Table 2-2: Future Growth by County

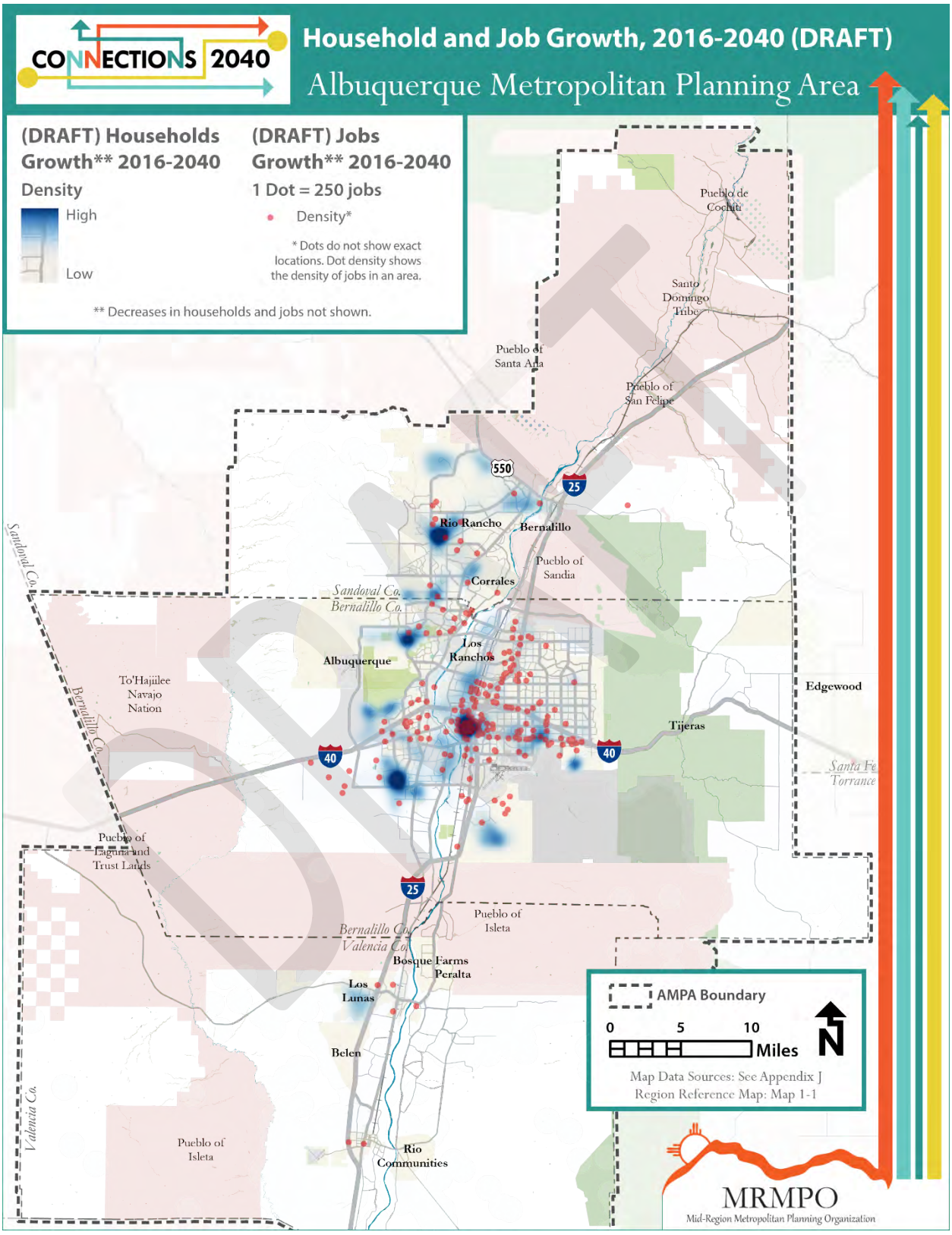
County	Household Share of Growth	Job Share of Growth	Household Growth Rate	Job Growth Rate
Bernalillo	66%	86%	16%	18%
Sandoval	27%	8%	36%	17%
Santa Fe	0%	0%	4%	14%
Torrance	1%	1%	9%	17%
Valencia	6%	4%	14%	17%

[2] Data Analysis Subzones (DASZs) are a unit of geography often used by transportation planners. DASZs are the equivalent of small subareas that are relatively homogeneous in nature, are usually bounded by transportation corridors, and provide a standardized geography for displaying information

Map 2-4: Household and Jobs Densities, 2016



Map 2-5: Household and Job Growth, 2040



d. How to use the Forecast

The *2040 Connections* socioeconomic forecast is referred to as a Trend Scenario, which is essentially a depiction of how the region will likely grow if it continues to develop in a similar manner as it has in the past under today's regulatory framework. The Trend Scenario is available to the planning and transportation community so that plans may be developed with consideration of how the future may look given existing conditions.

However, the Trend Scenario does not represent a certain future. Rather, it represents a most likely growth scenario based on adopted plans and policies. This is an important distinction, and it is one of the key reasons the MTP is updated every five years. There are many uncertain conditions in the region's future, be they related to planning regulation, the economy, the housing market, demographic trends, availability of natural resources, fiscal constraints, or a change in regional priorities.

These uncertainties should be part of any discussion that references the Trend Scenario. Infrastructure investments and design decisions based on this forecast and the resulting travel demand numbers should be balanced with qualitative elements such as community context and local planning goals and priorities. There may be cases where an argument could be made for using travel demand numbers that are not so far in the future.

Determining the Base Year

Federal guidelines require that forecasts which inform long-range metropolitan transportation plans be built upon the most current information available regarding both demographic and economic trends. Because the forecasting process is a time-consuming part of MTP development; it begins very early in the process of putting together an MTP. Early data collection for this MTP began in 2017 when the most complete data year was 2016, and as such, 2016 serves as the "base year" for the 2040 Connections. As the forecast is refined over time it is brought up to date by inserting more recent development activity that has occurred since the base year, in this case between 2016 and 2019. This is achieved by tracking local development review cases and building permits and entering them into the early years of the forecast. This important step ensures that the forecast truly begins with the most current information available and reflects reality when it comes to existing land use and growth patterns.

2.2 Transportation Trends

a. Regional Travel Patterns

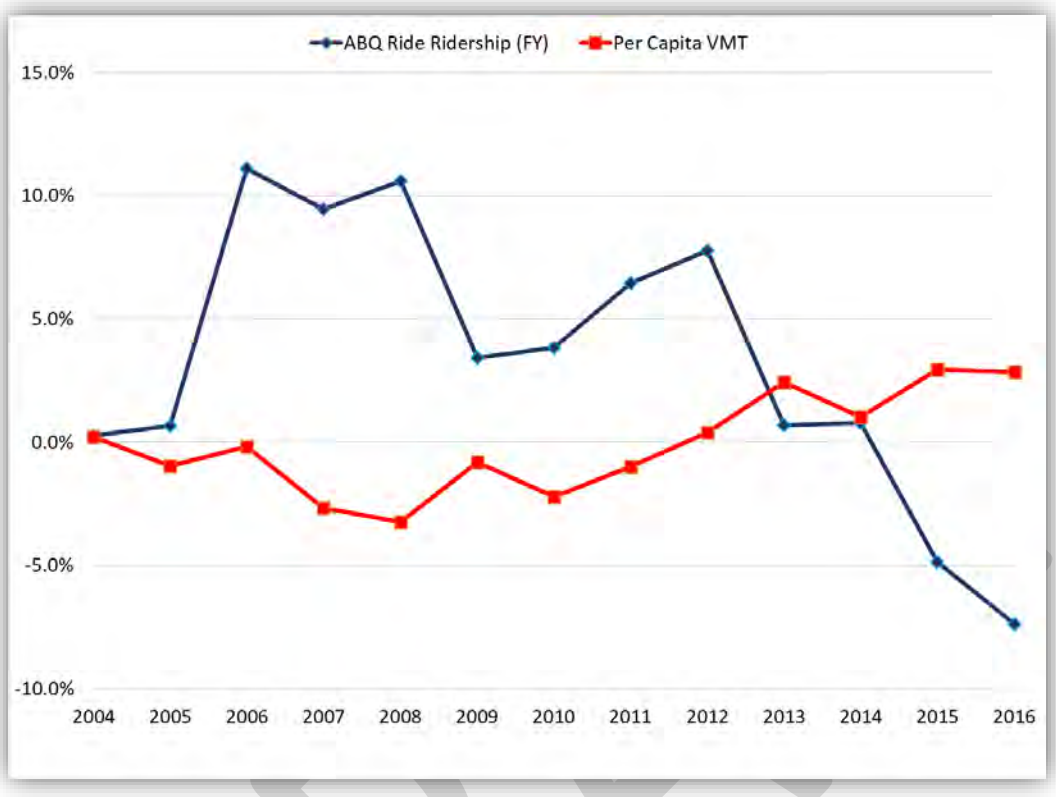
Towards the end of the last decade, vehicle miles traveled both nationally and locally were experiencing a consistent decline leading national analysts, and regional planners alike, to consider a behavioral shift occurring in how people were choosing to get around. In addition to declining vehicle miles, transit ridership had been growing exponentially both on existing routes and by adding new service. However, since 2012 these trends have reversed direction, both nationally and locally, with VMT on the rise once more, and transit usage on the decline across most metropolitan areas.

VMT and Transit Ridership

The figures illustrate the inverse relationship between per capita VMT and transit ridership in recent years. While New Mexico Rail Runner Express ridership has declined over the same time, the transit ridership represents only ABQ Ride for the purpose of year-over-year comparability since rail service was not fully implemented until 2011.

Figure 2-9: VMT Per Capita, 1970-2018

Figure 2-10: Transit Ridership vs. Vehicle Miles, 2004-2016



Between 2012 and 2016 VMT increased nearly 12 percent, which is particularly notable given the fact that both population and jobs grew at a considerably slower pace. **It is also important to note that the rise in VMT coincides with the timeframe that we have seen a rise in the use of ride-hailing services such as Uber and Lyft, which likely contributed to the increase.** [3] While it's impossible to say the extent that ride-hailing has impacted VMT, respondents to a recent MRMPO preference survey showed that 56 percent had utilized Uber or Lyft within the past year, 1.3 percent of whom utilized it daily.

Table 2-3: Summary Transportation Statistics, 2012-2016

Measure	2012	2016	Growth % 2004-2012
Population - AMPA	879,401	890,600	1.3%
Employment - AMPA	388,981	403,133	3.6%
Vehicle Miles Traveled - Total	18,966,203	21,199,359	11.8%
Vehicle Miles Traveled - Per Capita	21.7	23.8	9.7%
Transit Ridership	14,277,115	12,721,269	-10.9%
Passenger Miles Traveled	100,245,174	81,607,901	-18.6%

[3] According to a recent study at Arizona State University based on data from the 2017 National Household Travel Survey, it is estimated that ride-hailing trips doubled between 2009 and 2017 which represents 0.5 percent of total travel.

More Commuters Drive Alone

An examination of commute to work patterns using Census data provides further evidence of increased dependence on the personal vehicle in recent years. Between 2012 and 2017, there has been a 1.5 percent increase in commuters who drove alone to work (9,200).

Table 2-4: Commute Mode Share over Time, 2012 and 2017

Commute Mode	2012		2017	
Type	*Workers*	*Percent*	*Workers*	*Percent*
Drove Alone	315,272	79.2%	324,496	80.4%
Carpool	42,068	10.6%	36,551	9.1%
Public Transportation	6,614	1.7%	6,651	1.6%
Bicycle	3,744	0.9%	4,048	1.0%
Walked	7,397	1.9%	7,193	1.8%
Other Means	5,002	1.3%	5,267	1.3%
Worked at Home	18,090	4.5%	19,295	4.8%
Total	398,187	100.0%	403,501	100.0%

The increase in the drive alone share of workers was primarily at the expense of the carpooling segment, which decreased over the same time period. One possible explanation can be found in the kinds of jobs that have been created during this time. When we consider that the fastest growing sector in the economy is healthcare, followed by construction, food services and accommodations – industries that don't conform to a typical weekday schedule or have changing job site locations – it is likely that the ability to carpool or use other forms of alternative modes has decreased.

Table 2-5: ABQ Metro Area Top 5 Growth Industries

Source: QCEW

Job Growth Industries	2012	2017	Growth
Health Care and Social Assistance	60,371	68,025	7,654
Construction	19,334	23,500	4,166
Accommodation and Food Services	37,669	41,609	3,940
Professional and Technical Services	28,708	30,849	2,141
Finance and Insurance	10,703	12,372	1,669
All Industries	*355,089*	*373,873*	*18,784*

Transit Use by Age Group

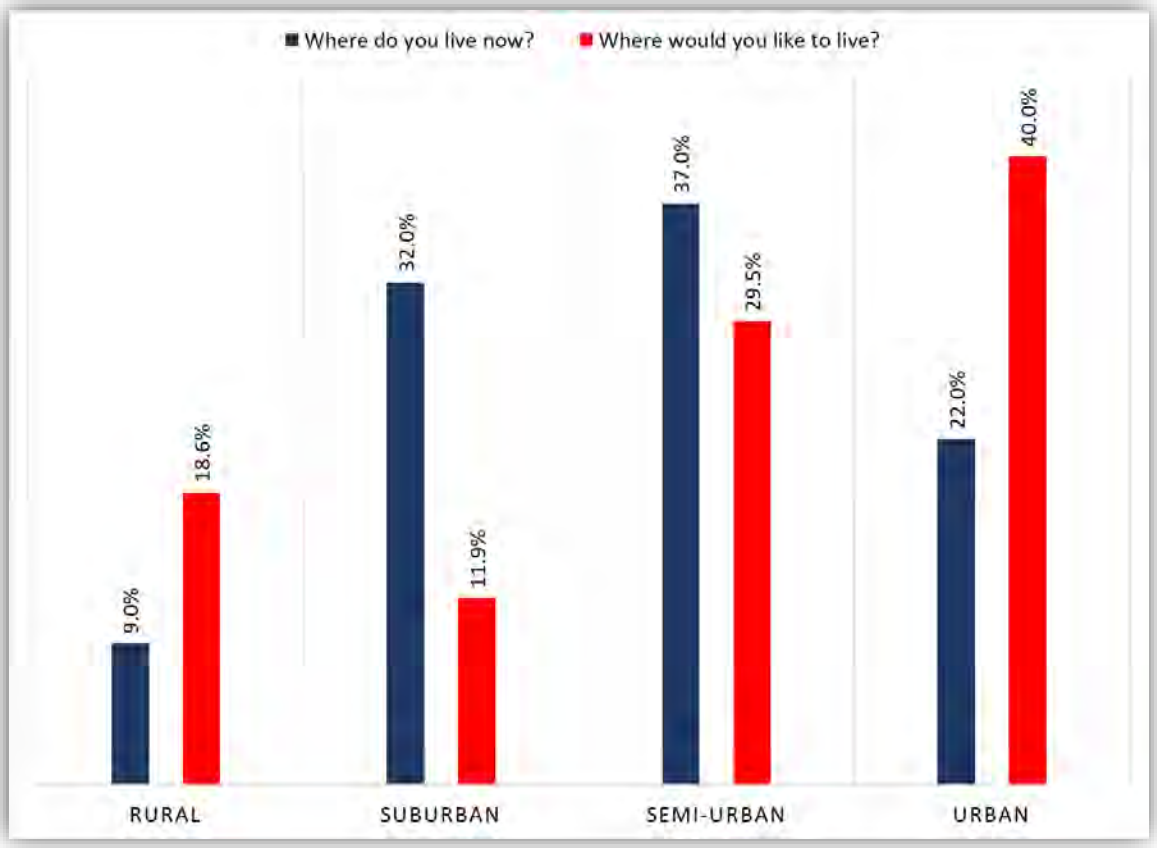
While transit ridership has declined in recent years, there are some interesting exceptions**. There are two age groups where the commute share by transit has increased over time: the 20-24 and 60-64 age groups.** In addition, the Census data show that both the number and share of workers commuting by transit held relatively constant between 2012 and 2017. This suggests that the decline in transit ridership may not be due to the commuting segment of riders, but by those using transit for other trip purposes.

a. Consumer Preferences and Concerns

Between 2018 and 2019, MRMPO distributed a questionnaire to approximately 700 people about transportation needs and challenges across the region. This public perception questionnaire provides us a means of matching up observable data with stated preferences. Some of the questions asked were identical to those posed in 2013-2014 to approximately 1,300 people during the development of the *Futures 2040 MTP*, allowing for additional insight into how perceptions have changed over time.

One key finding is that far more people desire to live in an urban environment than already do, in fact, double. The same is true to a lesser extent for a rural lifestyle. And far fewer people desire to live in a suburban area than currently do. This same question was asked in 2013-2014 with similar results.

Figure 2-11: Current vs. Desired Housing Location, *2040 Connections Questionnaire,* 2018



When probed further, it was revealed that it was easy to access to goods and services that made urban living desirable. In addition, in both surveys, the desire to live in an urban area represented the majority of responses across all age groups.

Access to Goods and Services

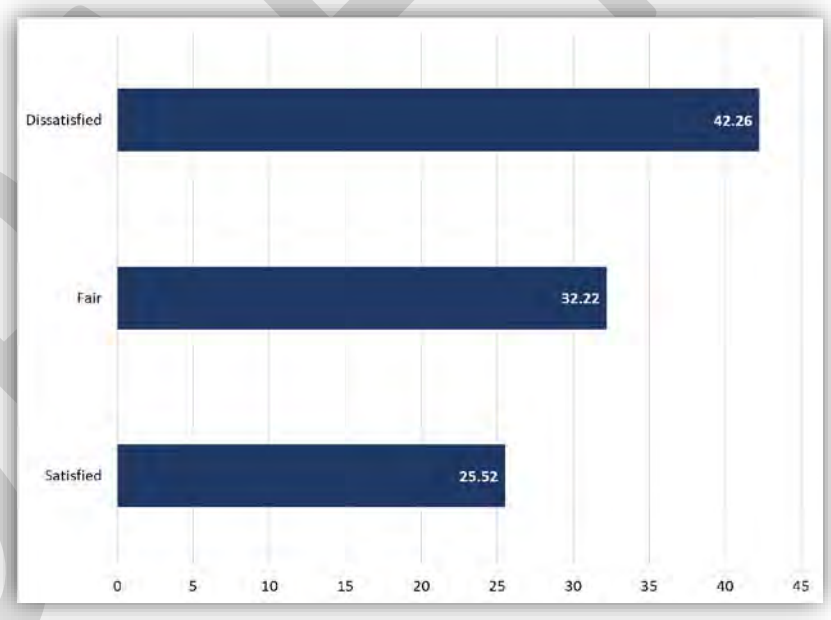
A preference for urban environments and access to goods and services supports the evidence that shows that there are more people, and especially young professionals, living near our region's activity centers than ever. Both survey and observable data support a desire for walkable, mixed-use neighborhoods with access to amenities, even in rural areas where people are accessible to small town Main Streets.

Lack of Travel Options

Respondents to the MRMPO survey tended to not be satisfied with the current transportation system. Only one in four people felt the transportation options met their needs, with a full 42 percent saying that it did not meet their needs well. When compared with the previous questionnaire, responses indicate a growing level of dissatisfaction that is strongest among young adults.

The questionnaire also provides insight into why people are dissatisfied. Lack of good routes by alternative modes, concern for safety, and excessive travel times are all important factors. Interestingly, respondents reported that there were few significant barriers to vehicle travel and just one out of four respondents felt congestion was a serious problem.

Figure 2-12: Satisfaction with the Transportation System, *2040 Connections Questionnaire,* 2018

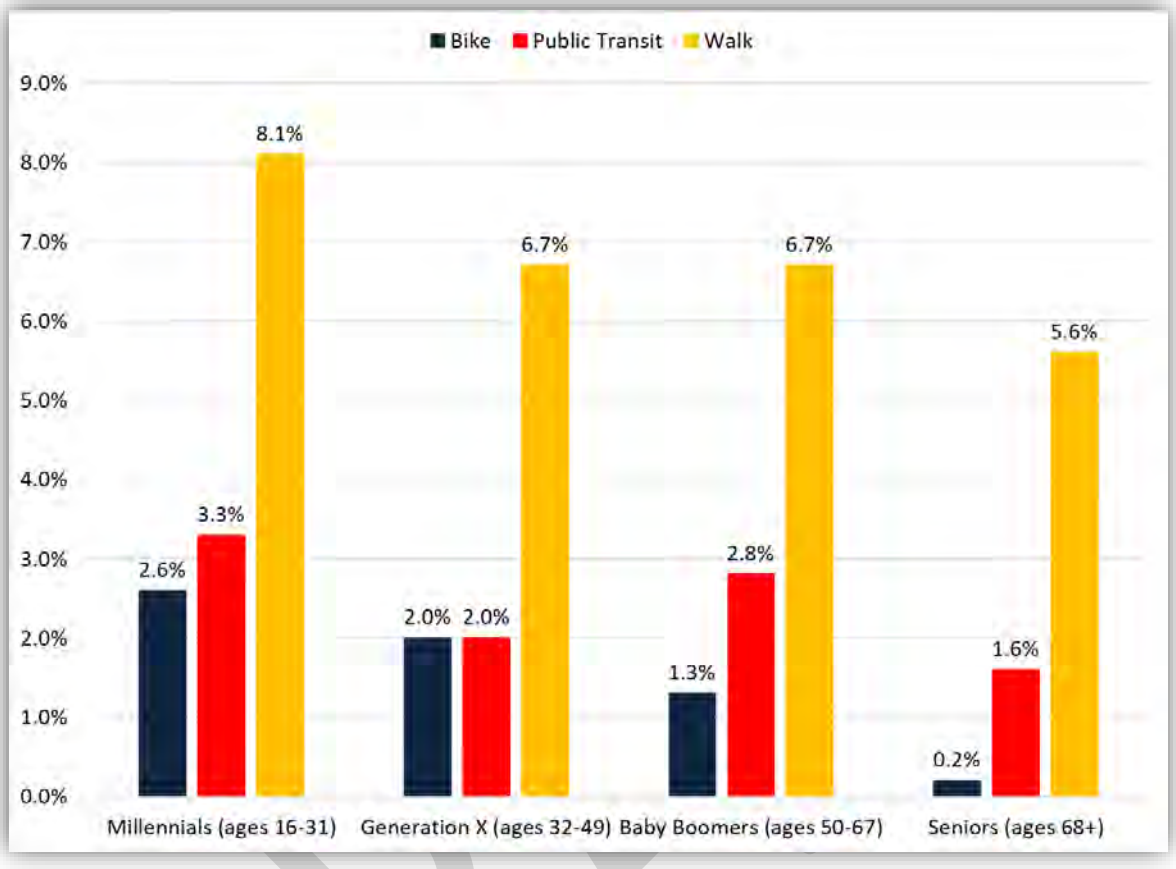


Multimodal Access

In addition to the public perception questionnaire, MRMPO also conducted a Mid-Region Travel Survey from November 2013 to January 2014. Nearly 2,500 households (and more than 5,000 individuals) from across Bernalillo, Sandoval, and Valencia Counties participated in this statistically significant survey.

The survey revealed that Bernalillo County residents were most apt to travel using multimodal options due to the increased opportunities to do so. Additionally, young adults were more likely to bike, walk, and utilize public transit than other age groups. Equipped with the knowledge that young adults are more likely to utilize active modes of transportation and are least likely to be satisfied with their transportation choices, we have an opportunity to invest in infrastructure that will improve the user's experience, such as complete streets and multi-modal connections. **If we fail to provide convenient, connected, and safe multimodal options, we may be hindering our progress as we work to attract and retain young professionals to the region.**

Figure 2-13: Alternative Mode Share by Age, Mid-Region Household Travel Survey



2.3 Regional Opportunities

a. Local Planning Advances

An important function of a long-range transportation plan is to guide and support local jurisdictions with their land use and transportation policies. While the MTP can be considered a general roadmap, the policies of local jurisdictions are the actual avenues that take us to where we want to go. Since the adoption of the previous long-range plan, *Futures 2040 Metropolitan Transportation Plan,* there have been several local efforts that embody many of the concepts that were put forth in the previous long-range plan, and which continue to be supported with this update, the *Connections 2040 MTP*.

High Frequency Transit

The City of Albuquerque has pioneered the region's first BRT system along the Central Avenue corridor, paid primarily with funds from the Federal Transit Administration (FTA). While the service start date suffered several delays due to a series of challenges, there is already evidence of significant private investment along the corridor with developers citing the permanence of the line as a key factor. A second BRT line along the University Avenue corridor connecting the Albuquerque Sunport with sports stadiums and educational and health facilities is in the planning stages. These efforts are supported by the MTP through the recommendation of implementation of high frequency transit, such as Bus Rapid Transit, in order to increase transit mode share, promote efficient and equitable people movement, and reduce congestion.

Mixed-Use Zoning

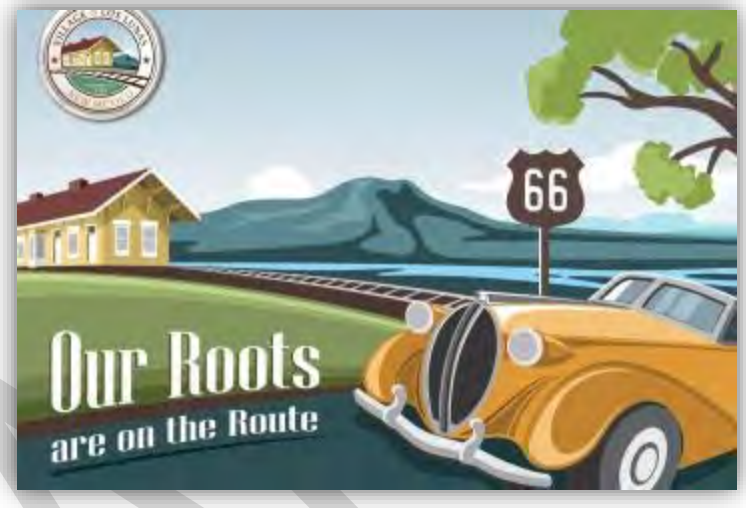
The City of Albuquerque has recently passed a new Integrated Development Ordinance (IDO) which represents a massive overhaul of its previously complex system of land use regulations and zoning – integrating numerous plans and ordinances into one document. As part of this effort, the City created a new category of zoning called Mixed-Use Zones, which were formerly commercial zones. These zones will now also allow housing in new development, and in redevelopment along key transportation corridors, increasing housing proximity to transit, jobs, and services. It is an important step towards changing the outdated Euclidian zoning strategy of separating jobs and commerce from residences. These efforts are supported by the MTP through recommending and encouraging a compact mix of uses in key locations, and the adoption of mixed-use zoning as a potential action item.

Diverse Activity Centers

The City of Rio Rancho has adopted the Unit 10 Specific Area Plan in 2016, which highlights the need for diverse housing types, jobs, and shopping and a well-designed transportation system that encourages complete street design, walkable neighborhoods, and a high level of connectivity. The plan also

emphasizes the desire to improve the balance of housing and jobs in order to lessen traffic congestion and the need for workers to commute out of the City to their jobs. Lastly, the Los Diamantes master plan, located within Unit 10, is zoned to accommodate higher density housing and a business park, providing an opportunity to create a new mixed-use activity center. These efforts are supported through recommendations that growth in large undeveloped areas should be master planned to include well-connected streets, a range of densities, and a balance of housing and jobs.

Place-making and Historic Preservation



Through funding received from a National Endowment for the Arts Our Town Grant, the Village of Los Lunas has worked in collaboration with the UNM School of Architecture and Planning to develop plans for an upcoming Los Lunas Route 66 Museum and Visitor Center. In spring of 2019, students and professors in the UNM Community and Regional Planning Capstone Studio worked directly with staff from the Village of Los Lunas to develop a site plan and programming structure for the upcoming museum, including recommendations for highlighting the historic pre-1937 Route 66 corridor. Historic preservation students documented the condition of buildings on the site to determine the remediation needed to use them for the museum. An architecture studio in fall of 2019 further developed the design of the buildings and the museum programming. The Village has been in the early planning stages for the Route 66 Museum since early 2015 and envisions an active museum and event center on our historic Route 66 corridor. These efforts are supported through the recommendation of the use of creative partnerships to encourage development in key locations.

Connected Transportation Investments

In 2019, Bernalillo County adopted the Sunport Commerce Center Design Overlay Zone and the Sunport Commerce Center Transportation Plan. The Design Overlay helps to encourage new economic activity that is attractive and will enhance the overall identity of the area. The Transportation Plan identifies a multi-modal network that connects the Commerce Center to the region and enhances access within the plan area. Together, these two plans are strategically integrated with new major transportation investments, as well as existing rail connections and access to the airport, in order to promote a variety of transportation options for commuting and goods and freight movement. These efforts are supported through recommendations that key economic development projects be linked with transportation investments.

Targeting Economic Investments

MRCOG's *2020 Comprehensive Economic Development Strategy* (CEDS) presents a five-year plan for economic growth and highlights strategies that will move the region towards a more resilient economy. The CEDS development convenes regional economic development leaders to identify focus areas that will elevate our region and maximize our return on investment. There are several key job clusters identified that are identified for growth, including Film / Arts & Entertainment, Agriculture and Value-Added Foods, Tourism / Outdoor Recreation, and Science and Technology, to name a few.

The Film / Arts, and Entertainment sector has catapulted the region onto the radar of national industry leaders with the announcement of Albuquerque as a Netflix production hub, promising 1,000 new jobs and $1 billion in production over 10 years. Several additional production announcements include Sony Pictures, Warner Brothers, and NBCUniversal. Agricultural and Value-Added Foods is another growth area in the region with average annual growth of six percent over the past five years. With 10 times the concentration of jobs than the nation, the Science and Technology sector in the region is only expected to grow with expansion announcements at both Intel and Sandia National Laboratories that will fill over 2,000 jobs.

Regional Economic Assets

MRCOG's *Transportation and Logistics Hub Study* (the Hub Study) presents opportunities for the region to leverage its transportation infrastructure and workforce development to build a robust manufacturing and technology economy. The Hub Study identifies several regional assets that can be further leveraged to support economic growth. For one, the metropolitan area has a competitive advantage in the area of industrial land availability. Between Bernalillo and Valencia Counties, there are dozens of vacant or under-utilized industrially zoned sites that exist in proximity to rail, highway, and air transportation. In fact, there are over 1,500 acres of industrial land among 27 sites that have been identified as suitable for compact, transportation-focused, industrial growth. The study goes further to say that a "certified ready" industrial site program would be beneficial to help expedite development and provide local governments with a tool to direct development to places that would help to achieve public goals such as balancing jobs and housing or catalyzing under-utilized employment centers.

b. Transportation Enhancements

As the metropolitan area grows, more focus needs to be placed on transportation connections, including integrating public transit and transportation planning with economic development programs. While MRMPO and MRCOG have actively partnered with regional partners in both the public and private realms to build and enhance these connections, more can be done. MRMPO is committed to this work, both through participating in regional discussions and promoting the recommendations from the CEDS and the Hub Study. Promoting these types of programs is essential to integrating and elevating our regional transportation system and our economy.

Mobility Options

Leaders in the transportation profession in general agree that when it comes to mobility, the future is all about choice. Whether it is general auto, ride-hailing, automated vehicles, public transit, bus rapid transit, commuter rail, bike-sharing, scooters, or walking, transportation options are continuing to expand and fill in the gaps to connect people with their destinations. Evolving transportation technology and the supportive infrastructure that it requires is challenging cities and regions to both plan ahead and adapt quickly during this time of rapid change.

Autonomous Vehicles

Perhaps most revolutionary of these options is autonomous or 'driverless' vehicles. While there is no agreement as to when, it is certain that in the coming years fully automated cars and trucks that drive us, instead of us driving them, will become a reality. The potential benefits from automation include improved mobility, faster goods movement, fewer crashes, and better accessibility for those who can't drive. But equally possible are job losses due to automation, more congestion, increased crashes and emissions, sprawl, and economic inequity. There are some important steps we can take in order to avoid some of the potential negative consequences of autonomous vehicles:

1) Create an economic development strategy that supports the development and testing of smart auto systems including electric vehicle components, connected infrastructure, and other emerging transportation technologies.
2) Encourage the use of shared or pooled rides to reduce the number of trips and increase affordability.
3) Utilize regulatory and economic incentives that encourage compact mixed-use development and creative reuse of space including parking areas to reduce trip length and auto dependency.
4) Design policy surrounding autonomous transportation systems that includes provisions to ensure that economically and physically disadvantaged populations have equitable access to them.
5) Proactive maintenance of roadways and right-of-way acquisition with new development.

As of 2018, twenty-nine states have enacted legislation related to autonomous vehicles. While the New Mexico state legislature has not yet acted on legislation, they have committed to addressing the emerging need for transportation policy in this area by establishing a committee of key stakeholders to investigate autonomous vehicle regulation.

Connected Vehicle Technology (CV)

CV is another burgeoning advancement in transportation that is currently being deployed on vehicles today. CV enables vehicles to communicate with other vehicles, infrastructure, and spot pedestrians to improve safety and efficiency of movement. Examples of CV technology are signals that could convey the posted speed limit, sensors that could alert vehicles to potential incidents, and the capability for vehicle platooning where vehicles could sync their travel together just like a train. In addition, this technology is more dynamic in that it can be updated in real time in response to changes in roadway conditions. Connected technology exists today and will be implemented well before fully autonomous vehicles. CVs are already showing great results in safety and improved driver-experience, however, realizing their full benefits will depend on how widely integrated they are into the overall transportation fleet and how well we have maintained and adapted our transportation infrastructure for them.

Bike Share and Scooters

Bike share and electric scooters represent two mobility options that are relatively new to Albuquerque's transportation market and are available in key locations such as downtown. Through an app on a smartphone, users are able to find and rent bikes and scooters instead of getting in their car to travel between destinations. This can be particularly efficient for short distances and within downtown and activity centers. Publicly available bikes and scooters reduce the need for parking, do not compromise our air quality, and supplement transit trips by providing that last-mile connection to a passenger's destination. In addition to their practical use, bike share and scooters also promote physical activity and provide a fun way to get around. While scooters are relatively new, the bike share program has been a great success and has undergone several rounds of expansion to accommodate demand.

Ride-Hailing Services

Ride-hailing refers to the on-demand transportation services that link drivers with passengers that need a ride. Using a smart phone application, passengers needing a ride can hail nearby drivers who are compensated for their services by Transportation Network Companies (TNCs). The transaction is quick and easy for the technically equipped, yet perhaps out of reach to some. This raises equity issues, and a study in the San Francisco area of riders showed that the lowest income households were underrepresented among users of ride-hailing services.[4] In addition, TNCs such as Uber and Lyft tend to operate in major cities, while more remote suburban and rural residents continue to rely on their personal vehicle to get around. Another concern related to ride-hailing is the potential to add vehicle miles to our roadways, particularly when the passenger may have otherwise chosen to take public transit, walk, or ride their bike; modes which serve to remove vehicles from the transportation network. Nonetheless, ride-hailing services have disrupted traditional transportation providers with a cost-effective and easy alternative to other means of travel. When combined with ridesharing (passengers opt to share their ride with other passengers for a lower fare) there is the potential to increase affordability and combine multiple vehicle trips into one. And, some transit agencies are starting to partner with transit agencies with agreements to provide "last mile" connections in support of a larger regional transit system. Policymakers in many cities have used various tools to prioritize high-occupancy vehicles and encourage ridesharing. This could be a beneficial future direction for New Mexico.

[4] Shared Mobility Current Practices and Guiding Principles, FHWA, US Department of Transportation, 2016

2.4 Regional Challenges

a. Limited Funding

While our region's infrastructure needs continue to accumulate, our sources of transportation funding have become more limited and increasingly unpredictable. There is pressure at the federal level for states to financially shoulder a higher share of their transportation needs. This very much highlights the fiscally constrained nature of the Metropolitan Transportation Plan as there is simply not enough money to fund all the transportation projects being proposed. Because of this situation it becomes more and more important that ***Connections 2040*** **go one step further, by highlighting that when new infrastructure projects are proposed, they fill a critical gap in the regional network—be it road, transit, bike, or pedestrian infrastructure—in order to receive the greatest return on investment of public dollars.**

National and State Level

At the national level, Congress has not passed an increase in the gas tax since 1993; meanwhile, inflation has risen by approximately 70 percent during this time. The gas tax is the most immediate way to fund infrastructure improvements. The current transportation bill, the FAST Act (Fixing America's Surface Transportation) was passed in 2015 and has authorized modest annual increases in transportation spending that are further diminished by a growing population, a growing inventory of needs, and rising construction costs. The FAST Act expires in 2020 and members of the House and Senate are currently working on drafting a new surface transportation bill.

As with the national situation, at the state level, New Mexico policy leaders have not raised the tax on gasoline since 1993. At 18.88 cents per gallon, the New Mexico gas tax remains one of the lowest in the nation. As the fifth largest state in the nation, New Mexico has a considerable inventory of roadways that require maintenance, and this includes many facilities in the Albuquerque metropolitan area in both urban and rural areas. The lack of a major increase in infrastructure funding by the federal government, and the lack of a reliable and sufficient transportation revenue stream from state and local governments, does not abate our public responsibility for ensuring reliable and safe infrastructure for all residents. It does mean, however, that we must be more strategic about how these limited funds are spent.

Funding Streams

Raising gas taxes could help local governments fund transportation projects but is certainly not a silver bullet. Increasing fuel efficiency, and improvements in vehicle technology have created less dependence on gasoline as a fuel source. A larger share of vehicles and buses on our roadways are powered by electric, natural gas, and other alternative fuel sources, and this is expected to continue in the future. There are options for creating new funding streams such as mileage-based user-fees, but these ideas are still very much in their infancy phases and raise concerns about privacy and equity among other things.

Lifecycle Costs

It has become increasingly apparent in light of limited dollars that we must be more financially prudent and prioritize infrastructure projects carefully. With every roadway expansion project, miles are being added to our regional inventory; miles that need to be maintained over time. This responsibility generally defers to the local jurisdiction. When new transportation infrastructure is proposed, consideration of the full costs must be taken into consideration; that is, the one-time capital costs of the project plus all recurring costs that are expected throughout a project's life. These "lifecycle costs" must be part of the equation when weighing existing project need and cost. This is often a difficult balance to strike.

The Metropolitan Transportation Board, comprised of policy officials from throughout the greater metropolitan area, recognize the need to maintain existing infrastructure first. This is a key objective of the mobility goal mobility from *Futures 2040* and has been carried forward to *Connections 2040*. One example of the Board's commitment to this objective is the addition of critical bridge maintenance to the MTP project list.

b. Transportation Costs and Equity

The Albuquerque Metropolitan area is a beautiful and unique part of the country, but it is not without its challenges. When compared with the nation, the AMPA has higher poverty, lower incomes, and a greater share of disabilities.

Access to Transportation

The disproportionate need in our region underscores the importance of addressing equity issues as it applies to transportation access throughout the metropolitan area. Local data reveal that workers who are living in poverty travel differently than those living above the poverty level.

Table 2-6: Select Equity Census Data, 2017

	Albuquerque MSA	United States
Median Income	$50,906	$60,336
Persons living Below Poverty	15.5%	13.4%
Children under 18 living Below Poverty	20.2%	18.4%
Persons Living with a Disability	15.0%	12.7%

Table 2-7: Means of Transportation to Work by Poverty Level in the AMPA, 2017

	Below Poverty	At or Above Poverty Level
Drove Alone	71.5%	80.0%
Carpool	12.7%	10.4%
Public Transit	3.3%	1.5%
Walk	4.4%	1.6%
Taxicab, Motorcycle, Bicycle, or other Means	2.5%	2.2%
Worked at Home	5.5%	4.4%

While the table above applies to work commutes, it is safe to assume that a heavier reliance on modes other than driving alone translates to all trip purposes. This is because we know that low-income households are far less likely to have access to a vehicle than an average-income household. **While five percent of all households are without a vehicle, this is true for 12 percent of lower-income households.**

Not surprisingly, these households are more likely to rely on transit to get around. Transportation equity means ensuring that there are affordable, reliable, and safe means of travel available for those who need it to reach their jobs, healthcare services, and perform routine errands.

Transportation and Household Costs

Transportation costs are challenging for our region simply based on the physical area the region covers and the fact that the population is fairly spread out. It is simply not economically feasible to service all areas with transit service. Therefore, households that live further from the regional destinations are more likely to depend on a one or more personal vehicles for transportation. However, because housing affordability increases the further a household is willing to live from their jobs and centers of activity, this increased burden of vehicle ownership costs disproportionately falls on low-income households. This is a key concern given that **transportation costs are a household's second largest expense after housing.**

2.5 River Crossing Dilemma

Anyone who commutes over the Rio Grande during peak hour traffic has probably asked the question, "When will we get a new bridge?" The answer is, beyond what is already programmed, not within the lifetime of the MTP.[5] There are several significant challenges that are posed with the prospect of building a new river crossing discussed below.

a. Challenges of Building a River Crossing

Location and Right-of-Way Acquisition

The location for a new bridge crossing would likely be highly controversial. Much of the land alongside the river has been developed, making right-of-way acquisition expensive and would likely require the demolition of both commercial and residential buildings. A proposed location north of Alameda Boulevard would require traversing tribal lands and approval from tribal governments, whom have sovereign rights regarding the control and use of their land which must be respected. The west side of a northern crossing would require significant right-of-way acquisition and costs for properties in Corrales, Rio Rancho, or the Town of Bernalillo. Due to the high traffic volumes a new crossing would attract, any future alignment of a new river crossing would undoubtably be met with a great deal of residential concerns and objections.

Ancillary Projects

A new bridge and roadway would also require upgrades to roads leading to the bridge, and intersection improvements on connections both "upstream" and "downstream" of the bridge roadway's access points. Existing roadways leading to the bridge would experience significant increase in traffic, especially any east-west street the bridge ties into, changing the character of affected neighborhoods and possibly generating neighborhood opposition. Additionally, needed roadway upgrades would add significant costs to the project.

Fiscal Constraints

While a project cost estimate has not been developed for a new bridge crossing and associated ancillary projects, based on the costs of related elements of other major projects, a very rough figure of at least $100 million is reasonable for design, right-of-way acquisition, and construction.

Considering the total federal highway funding currently provided to the AMPA in any given year is approximately $65 million (which is also needed for rehabilitation, resurfacing, and repair of the existing infrastructure), relying on the core federal funding program to fund a bridge project is not practical. Even relying on state or local funding would require a significant commitment of financial resources to fund a project of this scale.

Per federal law the MTP must be fiscally constrained, meaning the cumulative total of all project costs proposed in the plan cannot exceed the total of all estimated revenues. Funding any large-scale project with core federal program funds would require removing an equal amount of other project proposals. Given the need to provide future rehabilitation projects for our current roadways and bridges, safety improvements and other needs, the impact of doing so would jeopardize the integrity of our existing infrastructure.

[5] The Village of Los Lunas will build a new river crossing parallel with Morris Road to alleviate high volumes on its only east/west thoroughfare, New Mexico State Road 6. This project has been planned for well over two decades and is finally nearing construction. US 550 is programmed for a widening project which includes new lanes across the river.

Local Funding Match

All projects programmed in the MTP must be sponsored by a member agency. Currently, no agency can sponsor such a project, given the fiscal responsibilities, including having to provide the required federal matching funds (usually 20 percent of the project), at a time when funding for transportation is only minimally increasing. The federal gas tax has not increased since 1993. At the time of development of this MTP, there are no agencies that can financially take on such a project during the timeframe of the plan.

Environmental Reviews and Air Quality

Construction of a new bridge and roadway connections require an environmental review of a project. A northern metro area river crossing would have impacts on the Bosque along the Rio Grande and impacts to the Rio Grande Valley State Park and/or other open space preserves.

When a project impacts parkland, an additional "4F" process is required, which states that a special effort must be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites. While building a crossing through a park area and an environmentally sensitive area is not insurmountable, several mitigation measures and conditions would likely be required and add to a project's cost.

Besides direct impacts due to the construction of a project, an air quality impact analysis would also be required. Any project building general traffic lanes would increase vehicle emissions along the route. The Albuquerque and Bernalillo County metro area was in nonattainment/limited maintenance for carbon monoxide (CO) from 1996-2016. Currently, the region is borderline for ozone (O_3) conformity with levels at the limit of the National Ambient Air Quality Standards (NAAQS) levels.

b. Considering Alternatives

The growing congestion on our river crossings and the major roads that lead to them, particularly during peak commute times, is a source of frustration particularly for residents who live and work on separate sides of the Rio Grande. Without another river crossing proposal, planners and policymakers are left searching for alternative ways to mitigate congestion. Given the impracticality of building an additional northern-metro bridge corridor in the next twenty years, alternative strategies must be developed that are more viable.

Mode Share Potential

The MTB has adopted a mode share goal to shift a portion of trips away from single-occupancy-vehicle (SOV) travel to transit, thus reducing the amount of vehicles crossing the river. A full, regular-size bus serves the equivalent of approximately 34 vehicles[6], therefore, a project of this type has the positive effect of carrying more travelers within the same roadway space as a single lane of automobile traffic. The construction of the Albuquerque Rapid Transit (ART) project which involves using dedicated bus lanes is a major step toward this goal. The ART service, along with future schedule improvements to the existing Rapid Ride Blue Line and existing ABQ Ride bus routes provide an alternative.

[6] https://www.codot.gov/programs/commuterchoices/documents/trandir_transit.pdf A 40-foot coach bus usually holds about 42 ambulatory passengers when two wheelchair tiedowns are provided. Using an average occupancy of 1.2 people per vehicle, that equates to the equivalent of 33.6 vehicles.

Land Use Patterns

Any significant shift in travel modes will require changes in land-use; particularly for future development on the Westside. Local agencies have begun efforts to update master plans to promote land use patterns that support shorter trips (for all modes of travel, including single occupancy vehicle travel) and provide employment opportunities on the Westside. This, combined with transit routes and non-motorized alternatives that are coordinated with land use to produce efficient and viable transportation options, will ultimately be more effective in assisting a dramatic shift needed in travel behavior to proactively use transit.

Peak Hour Spreading

Another option, and one that does not require any additional infrastructure, involves a simple shift in travel start-time made by travelers. Nearly every roadway has a "peak hour" of travel where demand is highest and roadway capacity is approached or met, however, if travelers can shift their start times earlier or later (sometimes by as little as 15') they can avoid the congested times associated with the busy peak hour. Doing this in combination with technological advances that provide real-time travel conditions as discussed earlier, as well as other ride sharing strategies, will have far more impact (and cost less) than building an additional bridge crossing.

Better Jobs and Housing Balance

Achieving a balance between jobs and housing both east and west of the river is one strategy identified by MRMPO and its member agencies that may be effective in alleviating the river crossing dilemma. There are approximately 1.2 workers per household in the entire Albuquerque MSA. As such, 1.2 is a reasonable target when gauging a healthy job-to-housing ratio (the number of jobs per housing unit) with the rational that there should be at least one job for every person in a household. The metro area's jobs-to-housing ratio stands at just over one today, meaning that there is approximately one job for every household. This ratio has been declining since 2000 as housing growth has greatly outpaced job growth (see table below).

While the AMPA has a relatively healthy jobs-to-housing ratio of 1.07, this is not true when we look at the ratio west of the Rio Grande, which stands at 0.56. This means that there is approximately one job for every two homes on the westside. In contrast, as the location of major employment centers such as KAFB, UNM, downtown Albuquerque and Journal Center, the jobs-to-housing ratio east of the Rio Grande is quite high at 1.42. That is, there are approximately three jobs for every two homes on the eastside.

Table 2-8: Jobs-to-Housing Balance East and West of the Rio Grande

	2000	2004	2008	2012	2016
AMPA					
Jobs-Housing Ratio	1.30	1.22	1.17	1.06	1.07
Housing	294,050	321,979	352,732	366,231	377,348
Jobs	382,746	393,880	412,803	388,981	403,133
Eastside					
Jobs-Housing Ratio	1.60	1.51	1.50	1.39	1.42
Housing	199,242	209,484	215,080	219,694	223,422
Jobs	319,099	317,060	323,496	306,296	317,489
Westside					
Jobs-Housing Ratio	0.67	0.68	0.65	0.56	0.56
Housing	94,808	112,495	137,652	146,537	153,926
Jobs	63,647	76,820	89,307	82,685	85,644

Attracting jobs west of the river serves to provide more opportunities for westside residents to live close to work and shop close to home. While job creation west of the Rio Grande doesn't mean that everyone is going to change their jobs to move closer to work, it does create the conditions that might spare a trip across the river. Considering that 87 percent of trips are made for another purpose besides work, more commercial and retail growth west of the Rio Grande means more opportunities to see a movie, find a primary care physician, or go back to school shopping all within close proximity to home.